

### **REMARKS**

Claims 18-34 are pending and under current examination. Applicants have amended claims 18 and 26. Support for the amendments may be found in the specification at, for example, page 12, line 28 to page 13, line 15.

### **Office Action**

Applicants respectfully traverse the following rejections:

- (1) rejection of claims 18 and 26 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention;
- (2) rejection of claims 18, 19, 21, 22, 24-27, 29, 30, and 32-34 under 35 U.S.C. § 102(b) as being anticipated by “*FOREIGN-LANGUAGE SPEECH SYNTHESIS*,” XP002285739, *Proceedings of ESCA/COCOSD A Workshop on Speech Synthesis*, pp. 177-180, (1998) (“Campbell”);
- (3) rejection of claims 23 and 31 under 35 U.S.C. § 103(a) as being unpatentable over Campbell; and
- (4) rejection of claims 20 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Campbell in view of “*Multilingual Text-To-Phoneme Mapping for Speaker Independent Name Dialing in Mobile Terminals*,” RTO-MP-066, Sept. 2001 (“Jensen”).

### **Rejection of Claims 18 and 26 under 35 U.S.C. § 112, second paragraph**

Although Applicants do not agree with the Office Action’s assertions, Applicants amend claims 18 and 26 solely in the interest of advancing prosecution. Specifically, Applicants amend claims 18 and 26 to recite “...said similarity tests performing a comparison between said phonemes of said second language and said set of candidate phonemes based on at least one feature category, said at least one feature category being independent of said first language and said second language.” Claims 18 and 26 comply with 35 U.S.C. § 112, second paragraph. Therefore, Applicants request reconsideration and withdrawal of the rejection.

**Rejection of Claims 18, 19, 21, 22, 24-27, 29, 30, and 32-34 under 35 U.S.C. § 102(b)**

Applicants request reconsideration and withdrawal of the rejection of claims 18, 19, 21, 22, 24-27, 29, 30, and 32-34 under 35 U.S.C. § 102(b) as being anticipated by Campbell. In order to establish anticipation under 35 U.S.C. § 102, the Office Action must show that each and every element as set forth in the claim is found, either explicitly or inherently, in Campbell. *See* M.P.E.P. § 2131. Furthermore, “[t]he elements must be arranged as required by the claim.” *Id.* Campbell, however, does not disclose each and every element of the Applicants’ claims. Moreover, the Office Action has mischaracterized Campbell.

The Office Action alleges that Campbell discloses, either expressly or inherently, each and every element of claims 18, 19, 21, 22, 24-27, 29, 30, and 32-34. *See* Office Action, pages 4-8. For example, in rejecting claims 18 and 26, the Office Action alleges that Campbell teaches a method and system for text-to-speech conversion

of a text in a first language comprising sections in at least one second language, comprising ... carrying out non-acoustic ... said similarity tests performing a comparison between said phonemes of said second language and said set of candidate phonemes based on at least one feature, said at least one feature being independent of said first language and said second language.

*See* Office Action, pages 4-6.

Despite this allegation, Campbell does not disclose or suggest at least Applicants’ claimed “carrying out non-acoustic similarity tests ... said similarity tests performing a comparison between said phonemes of said second language and said set of candidate phonemes based on at least one category, said at least one category being independent of said first language and said second language,” as recited in claims 18 and 26.

Campbell generally discloses “a method of concatenative speech synthesis for producing speech in a language other than that of a database speaker.” *See* Campbell, Abstract (emphasis

added). Specifically, Campbell discloses “a method for a) selecting a sequence of segments that best match the sounds of the target speech through use of a mapping vector and b) using an intermediate synthesis stage.” *See Campbell*, section 1, paragraph 5 (emphasis added). Campbell also discloses that the mapping procedure disclosed is carried out by searching a look-up table providing a correspondence between all the phonemes of two languages. For example, *Campbell*, section 1, Table 1, depicts a mapping table from English to Japanese. That is, while performing text-to-speech conversion between a pair of languages, the method disclosed by Campbell performs comparisons between phonemes based on categories that are *dependent* on the pair of the languages. Furthermore, the Office Action relies on Campbell’s disclosure of a “cepstral based” method as evidence of language independent mapping between any set of languages. *See Office Action*, page 3.

However, in the passages relied upon by the Office Action, Campbell teaches that the “waveform data of the first speech sequence (or its cepstral transform) is taken as a model to specify the acoustic characteristics of the desired speech,” and “[i]n the second stage of processing (Figure 4) we select speech waveform segments from the non-native speaker’s database by comparing their acoustic similarity to the model speech synthesised using the native speaker’s voice.” Campbell, section 3.2, paragraph 4. Therefore, even in the alleged cepstral based method disclosed by Campbell, and relied upon by the Office Action, Campbell still performs *acoustic* comparisons between phonemes based on categories that are *language dependent*. In contrast, independent claims 18 and 26 recite, “carrying out non-acoustic similarity tests ... said similarity tests performing a comparison between said phonemes of said second language and said set of candidate phonemes based on at least one category, said at least one category being independent of said first language and said second language” (emphases added).

Since Campbell does not disclose each and every element of independent claims 18 and 26, Campbell does not anticipate these claims under 35 U.S.C. § 102(b). Therefore, claims 18 and 26 should be allowable over Campbell. Dependent claims 19, 21, 22, 24-25, 27, 29, 30, and 32-34 should also be allowable at least due to their dependence from base claim 18 or 26, as well as because they recite additional features not disclosed by Campbell. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

**Remaining Rejections of Claims 23 and 31, and 20 and 28, under 35 U.S.C. § 103(a)**

Applicants request reconsideration and withdrawal of the remaining rejections of claims 23 and 31, and 20 and 28, under 35 U.S.C. § 103(a) as being unpatentable over Campbell, or over Campbell in view of Jensen.

The Office Action has not properly resolved the *Graham* factual inquiries, the proper resolution of which is the requirement for establishing a framework for an objective obviousness analysis. See M.P.E.P. § 2141(II), citing to *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), as reiterated by the U.S. Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

In particular, the Office Action has not properly determined the scope and content of the prior art. Specifically, Campbell and Jensen do not teach or suggest what the Office Action attributes to them. In addition, the Office Action has not properly ascertained the differences between the claimed invention and the prior art, at least because it has not properly interpreted the prior art and considered both the invention and the prior art as a whole. See M.P.E.P. § 2141(II)(B).

As explained above, Campbell does not disclose or suggest at least Applicants' claimed "carrying out non-acoustic similarity tests ... said similarity tests performing a comparison between said phonemes of said second language and said set of candidate phonemes based on at

least one category, said at least one category being independent of said first language and said second language,” as recited in claims 18 and 26.

Jensen fails to cure the deficiencies of Campbell. Jensen, for example, discloses experiments on “multilingual Text-To-Phoneme (ML-TTP) mapping for speaker independent name dialing.” *See* Jensen, Abstract. Jensen discloses the use of acoustic modules and states that “they have been observed to give good performance when used for other languages based on phonemes.” *See* Jensen, section 4.1, paragraph 2. Jensen further states that “[t]he acoustic phoneme models in this work were based on a low complexity hybrid.” *See id.* Therefore, like Campbell, Jensen also fails to disclose or suggest at least “carrying out non-acoustic similarity tests ...said similarity tests performing a comparison between said phonemes of said second language and said set of candidate phonemes based on at least one category, said at least one category being independent of said first language and said second language,” as recited in claims 18 and 26 (emphasis added).

Therefore, Campbell and Jensen, whether taken alone or in combination, do not teach or suggest at least the above-quoted features of independent claims 18 and 26. Thus, the Office Action has neither properly determined the scope and content of the prior art, nor properly ascertained the differences between the claims and the prior art. Independent claims 18 and 26 should therefore be allowable over Campbell and Jensen. Therefore, dependent claims 20, 23, 28, and 31 should be allowable at least by virtue of their respective dependence from base claim 18 or 26, and because they recite additional features not taught or suggested by Campbell and Jensen. Accordingly, Applicants respectfully request withdrawal of the remaining rejections under 35 U.S.C. § 103(a).

**Conclusion**

Applicants request reconsideration of the application and withdrawal of the rejections. Pending claims 18-34 are in condition for allowance, and Applicants request a favorable action.

The Office Action contains a number of statements reflecting characterizations of the cited art and the claims. Regardless of whether any such statements are identified herein, Applicants decline to automatically subscribe to any statements or characterizations.

If there are any remaining issues or misunderstandings, Applicants request the Examiner telephone the undersigned representative to discuss them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account no. 06-0916.

Respectfully submitted,

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